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ABSTRACT

A three-part strategy for research in vocational education and training (VET) in New South Wales (NSW), Australia, was proposed. The strategy was developed after a review of current key documents, initial consultations with key stakeholders and NSW Board of Vocational Education and Training officers, discussions with focus groups of users of VET research, and circulation of a discussion paper to VET stakeholders from the public and private sectors. The strategy's elements were as follows: a framework (broad set of principles) within which research and development within the VET sector can be developed and maintained; specific proposals for priority areas for research activity; and specific proposals for processes that the NSW Board of Vocational Education could adopt to strengthen the quality, amount, and usefulness of research. It was recommended that research in VET adopt the model of best practice in industry and that priority be given to research on the following topics: future scenarios and implications for VET planning; delivery of VET; reflection of the rhetoric of training reform in practice; the role of industry in VET policy and practice; and better data to help in training reform. (Appended are the following: definitions, description of the study methodology, and list of organizations providing input to the project.) (MN)

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Three Strings to the Bow

Research Priorities for NSW

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Three Strings to the Bow:

Research Priorities for NSW

Rod McDonald and Geof Hawke

Research Centre for
Vocational Education and Training

University of Technology, Sydney

November 1995

In early 1995 the NSW Board of Vocational Education and Training commissioned the UTS Research Centre for Vocational Education and Training to prepare a report advising on research priorities for NSW. This was prepared and considered by the Board.

This Research Paper is adapted from that report.

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Summary

To ensure a high-quality vocational education and training VET system in NSW, the prime need is for research that provides the support that policy makers, teachers in the classroom and trainers in the workplace require.

A three-part strategy is proposed to achieve this, comprised of:

- a framework, or broad set of principles, within which research and development (R&D) within the VET sector can be developed and maintained;
- specific proposals for priority areas for research activity;
- specific proposals for processes which the NSW Board of Vocational Education and Training (BVET) could adopt to strengthen the quality, amount and usefulness of research.

This will also result in NSW having an increased impact on national policy formation.

A framework

It is suggested that research in VET should adopt the model of best practice in industry. Research must be seen as integral to the operation of VET. Resources to support the development of research expertise, and to implement the research findings, must therefore be ongoing, rather than merely an activity to be carried out in response to immediate information needs.

Areas for research

A large number of areas have been suggested. It is proposed that priority be given to the following:

- future scenarios and implications for VET planning—carrying out research in advance of new developments;
- delivery of VET (particularly AVTS)—flexible delivery, and language, literacy and numeracy issues;
- underneath the Training Reform Agenda—the extent to which the rhetoric of training reform is being reflected in practice;
- the role of industry in VET policy and practice—how best to ensure that R&D is driven by the needs of its stakeholders;
- better data to help in training reform.

Strengthening research in NSW

By far the most important need identified by stakeholders is for new strategic initiatives, rather than specific projects. There is a need to strengthen the quality and

the amount of research being carried out, and improve the connections between research results, and policy and practice.

Initiatives that can help achieve this are:

- providing better links with industry;
- ensuring better dissemination and utilisation of research;
- building research expertise;
- providing better access to research findings.

A centre devoted to R&D in vocational education and training?

Many arguments have been made both for a greater involvement of stakeholders, and for an R&D centre in NSW.

It is recommended that a formal network of stakeholders and an R&D centre be established, together with a centre which will assist the development of research by driving, coordinating and overseeing the implementation of many of the suggestions in this report.

A strategy for research funding 1995-96

The recommended strategy for the next two years is:

- available research funds be divided between a selection of both large and small projects;
- a timetable be drawn up for the progressive implementation of the suggested strategies to strengthen research; and
- a network of stakeholders, and an R&D Centre, be established.

1. Background

While research in Australia which examines vocational education and training (VET) has a very long history, it is a chequered one.

The quality and quantity of such research has varied greatly over the years. Sadly, as Australia's focus on VET has grown, quality R&D has been allowed to decline. As a result R&D has, largely, failed to provide the support that policy makers, teachers in the classroom and trainers in the workplace have needed. In particular, VET has not been a research focus in many of Australia's higher education institutions or specialist education research agencies. Moreover, research has focused on educational provision in the technical and further education (TAFE) systems, and has had little involvement from industry—either as participant or subject.

In recent years there has been a realisation that the quality and amount of R&D being undertaken was declining at exactly the time at which it was most needed. This has led to a number of initiatives designed to improve the situation.

1.1 Recent national developments

A major study of the current state of R&D in VET was commissioned in 1991 by the Vocational Education, Employment and Training Advisory Committee (VEETAC). The final report of that investigation, *No Small Change: Proposals for a Research and Development Strategy for Vocational Education and Training in Australia* (McDonald et al. 1992), provided strong evidence that sound, well-targeted research and practical development activities added value to education and training. The report recommended that the Commonwealth government and State governments support the development of a national research strategy which would give a greater sense of purpose and accountability to research, ensuring that it has an impact. A companion report (Kearns and Papadopoulos 1992) pointed to some useful structures in several OECD countries, and a report into general educational research (McGaw et al. 1992) came to many of the same conclusions as *No Small Change* for the field of education as a whole.

No Small Change proposed specific national priorities for the immediate future, and recommended that a national body regularly review and adapt these priorities to accommodate the changing needs of industry and governments. The report also proposed new procedures to encourage the development of research skills in the sector and improve the usefulness of research—both by making it more targeted and ensuring its results were more readily understood and available.

These proposals were broadly accepted and, with changes in the national structures for the coordination of VET, led to the establishment of the Research Advisory Council of the Australian National Training Authority (ANTA) in 1994. The Council is charged with implementing a national strategic plan for supporting and encouraging VET research. In 1994 it allocated funds for one centre (in Victoria, focussing on economic issues) and sixteen projects ranging in costs from $50 000 to $150 000 across its five priority areas: the needs of small business, the needs of special groups, the assurance of quality, the economic impact of VET, and learning in the workplace. Currently, the council is calling for expressions of interest for its second round of research funding.

In addition to funding via the Research Advisory Council, ANTA funds each State Training Authority to manage national projects.

1.2 Developments in NSW

Within NSW, the amount of VET research has increased over the last couple of years.

- The NSW Board of Vocational Education and Training has been established, and has developed a research function.
- There has been an increase in university research as a result of:
  - a reawakening of the understanding that significant crossdisciplinary issues are available for and in need of research—for example, the linkage between Industrial Relations issues and changes in the VET system being researched by the Australian Centre for Industrial Relations Research and Teaching (ACIRRT) at the University of Sydney;
  - an expansion in the research activity of universities with a longstanding commitment to the area—for example, the establishment of the Research Centre for Vocational Education and Training at University of Technology, Sydney to provide a focus for UTS's wide-ranging involvement in VET R&D.
- Concern over the lack of research support available to policy makers has caused this situation to be re-evaluated and the NSW TAFE Commission has taken a number of steps within the last twelve months to re-establish a research presence within its operating structures. A particularly successful innovation has been the Assessment Centre for Vocational Education, funded by the former NSW Education & Training Foundation.
- In a similar way, the changing role of Industry Training Advisory Bodies (ITABs) has led to their taking an increasingly strong role in coordinating and conducting R&D activities. These are principally being undertaken to enhance their capacity to advise governments of the needs of their industries and to improve the quality of VET provision for their industries. Recently ITABs have been particularly focused on needs analysis and improvements to training delivery systems.

1.3 Methodology

The methodology used to prepare this report involved reading key current documents, initial consultations with a number of stakeholders and BVET officers, discussions with focus groups comprising users of research, and circulation of a discussion paper to all State ITABs, several major enterprises, TAFE NSW, organisations involved in R&D, and relevant government agencies. A detailed description of the methodology is given in Appendices A2 and A3.

1.4 An R&D strategy for NSW

Given the increasing importance of ensuring that NSW allocates funding for R&D in VET in ways which maximise its effectiveness, the following outline strategy for developing VET research is proposed.

The strategy involves three principal components:

- a broad set of principles (a "framework") within which research and development within the VET sector can be developed and maintained;
- specific proposals for priority areas for research activity;
- specific proposals for processes which BVET could adopt to strengthen the quality, amount and usefulness of research.

A State-based strategy for R&D obviously needs to be part of, and more than, a national strategy. For this reason liaison with ANTA and agencies in other States will be necessary.

In some places this report refers to research and in others, to "R&D". The difference between research and development is explained in Appendix A1. Within this report, when the term research is used it refers only to research and not to the developments that might arise from it. A number of current projects are evaluations of particular initiatives or programs. Evaluation is just one particular type of research.

2. A framework for R&D

Overall, respondents clearly valued R&D; however, they wanted to see better value for money, and often needed help determining their R&D requirements.

2.1 Positioning the State

A number of respondents emphasised the importance of NSW having an impact on national policy formation, which will be one of the benefits of a strategic approach to research. Linked into policy and practice, and with an increased level of research expertise, a strategic approach also has the potential to create centres of excellence in one or more key aspects of VET in NSW.

> *Principle 1:*
> *R&D priorities need to reflect overall system-wide priorities in a strategic approach.*

2.2 An industry-like approach to R&D

There is a growing understanding in Australian industry that R&D is not a commodity to be bought when required to solve immediate, short-term problems. Rather, its greatest value derives from it having a role as an ongoing support to policy and practice. This is reflected throughout all sectors of industry and government where organisations are placing a greater strategic importance on R&D. For example, the recent report of the Australian Trade Commission expressed the view that:

> Commitment to research and development is critical in an environment where Australia's ability to maintain a high standard of living for its citizens depends on its ability to remain competitive. Diligent attention must be paid to maintaining a high commitment to this issue. It is second only after education and training as a prerequisite for success. (LEK Partnership 1994, p.62)

This report went on to quote the Chief Executive Officer of a leading Australian service industry company as saying:

> "... research and development expenditure, which is 17% of total revenue, is a key factor to the company's success." (p.63)

This demonstrates a fundamental change in the way research is viewed. Previously research has been seen as a distinct set of activities which are funded and conducted in a way largely separate from routine operations. (Development, on the other hand, has not suffered from this problem.) Leading edge industries by now view R&D as an integral component of their overall development strategy rather than as a separate function with its own, distinct budget. The commitment to pursue a particular line of research aimed at changing policy or practice contains a commitment to allocate the resources to implement the research findings.

R&D in VET should follow this emerging model in industry—it needs to be strategic, integrated with the needs of the industry, and regularly reviewed. This cannot happen without some essential infrastructure.

Research must also be focused, productive and address the needs of the moment. As one commentator recently put it:

> "I want research that informs policy and practice; is evaluative as well as descriptive, is comprehensive, addresses the value for money issue for quality assurance; identifies the significant and differentiates it from the interesting; is accessible; is now" (O'Connor, 1994).

However, current arrangements, *ad hoc* and reactive as they mostly are, rarely achieve these things. Moreover, a focus on the pressing, immediate concerns of day-to-day management has militated against the development of a more long term, strategic approach to identifying the changing needs and roles of VET, and preparing to meet those needs. Thus VET systems have found themselves confronted by social, industrial and technological changes for which they have been poorly prepared. Industry has, rightly, criticised the system for its tardy response and the lack of currency of many of its programs. Furthermore, now that industry bodies are taking a greater role in the development of priorities for the VET system and need to develop knowledge and a database with which to determine their projections of changing need, they find themselves faced with both a shortage of suitable data and of researchers capable of collecting, organising and analysing data.

VET R&D needs a strategy whereby a range of approaches to developing and facilitating R&D is adopted and integrated within ongoing programs.

> *Principle 2:*
> *R&D must be integrated within mainstream program activity and reflect the needs of the range of stakeholders involved.*

2.3 Maintenance of priorities in research

While, below, a number of themes or areas are identified where respondents have indicated immediate priorities lie, mechanisms are needed for maintaining the currency of its strategic priorities over time. These mechanisms might include periodic assessments of priorities, or, preferably, an ongoing consultation process managed through mechanisms of the sort discussed in 4.5, below.

> *Principle 3:*
> *R&D priorities must be regularly reviewed and revised.*

2.4 A focus on projects or action-oriented research?

Throughout this research, significant questions have been regularly asked which aim to clarify the purpose of R&D in the VET sector. The questions, briefly summarised, ask: "Is this about funding projects, about achieving better outcomes for clients of the VET system or about encouraging a climate of research at the grassroots?"

Behind these questions lie many issues. Today's VET system is one which, like most of industry, focuses on concepts such as quality and continual improvement. R&D plays a key role in such processes by informing and guiding the process of change. However, such processes are not well served by the occasional project-based set of activities.

R&D must be integrated into the business planning cycle and be an integral component in activities such as product development.

Should the focus be on providing research skills broadly throughout the workforce or are these specialist skills to be developed by a few? Should the focus be on providing ongoing, recurrent support to organisations which are using R&D to refine and improve their planning and delivery of VET? Should one-off grants be provided to assist organisations to set-up and establish internal systems which foster and support this ongoing role, or should funding be targeted at more substantial projects which provide guidance as to how these processes can best be established within organisations?

Discussions with stakeholders have led to the view that no single approach will satisfy the variety of needs evidenced by providers, enterprises, industry or the community. The allocation of funds needs to be such that, within available resources, there is a mix of funding for targeted projects and support for action-oriented research. One option suggested by some respondents was that funds be provided to some suitable agency to act as a research brokerage providing small grants to worthy action-oriented research activities involving providers and enterprises.

Principle 4:
R&D funding must include provision for a range of methodologies, and a range of levels of research and development activity.

Principle 5:
R&D funding for small projects is best managed through a brokerage arrangement rather than through a submission-based project funding approach.

Principle 6:
Research should be a mixture of both short- and long-term projects.

2.5 Research which delivers

There is a clear consensus that much of current and recent research has failed:

- to clearly address issues which have immediate relevance to the policy decisions made by bureaucrats or the training investment decisions made by industry;
- to lead to real changes in policy or practice.

The first of these appears to be a result of research directions being determined by the interests of researchers rather than the needs of decision-makers. Even more frequently, it results from the inability of researchers to report their findings in ways that can be understood, and through a lack of dissemination systems which get the information to those who need it, in time for it to be of use.

No Small Change and many other reports have identified the failure of research dissemination as one of the key faults of our current approach to R&D. However, research dissemination is a matter which has rarely been successfully addressed.

Principle 7:
Research to encourage relevant, useful R&D activity is a cost-effective way of achieving value for money.

Principle 8:
Arranging for research dissemination and availability is at least as vital a consideration as the conduct of the research itself.

3. Areas for research

During the course of this project a large number of suggestions were made for research topics. These suggestions tended to reflect the interests and concerns of each particular enterprise, industry or group. The extensive nature of the list is probably a result of a backlog of research needs indicative of the fairly small amount of research carried out until now. The complete list of possible research topics is given in full in the following Table, and an attempt has been made to categorise them. Given the nature of the consultation exercise, it was difficult to arrive at a consensus about those particular topics most in need of research. Although some topics will be best tackled at a State level and some at a national level, they are all listed, regardless of the level at which they are best researched.

More importantly for the immediate purpose, five themes requiring research priority are identified below. All but the first theme came directly from information provided by the respondents, though it was sometimes necessary to organise and classify this information differently from the way in which it was provided.

The first theme is an extraction from the responses of many people consulted, though it was not usually articulated in the way that appears below.

3.1 Future scenarios and implications for VET planning

Significant cultural, political, social and technological changes pervade the world within which VET operates. Many of these changes will have significant impact on the nature delivery and priorities of VET. It is not proposed that BVET fund activity which is utterly speculative; however there are many current developments whose potential to impact on VET in NSW is clear, and yet about which little systematic thinking and research has been initiated. Some of these developments which were raised during the course of the project include:

- The Australian Government's commitment to greatly reduce tariff barriers by 2010 will significantly impact on the nature of many industries. What changes might this require of the VET system?
- What might the changed view of management and management education that the Karpin report on leadership proposes (Industry Task Force for Leadership and Management 1995) mean for VET in NSW?
- The recent report *Competing for Design—the National Design Review Report* (Australian Academy of Design 1995) proposes that design awareness and design responsibilities be more widely spread through the workforce. If supported by government and industry, what impact might this have on technician level training for manufacturing industries, for example?
- New industries, such as the content development and management industry arising from the introduction of pay TV and the Internet, may offer significant challenges to a VET system organised around institutions. What options might need to be explored?

3.2 Delivery of vocational education and training

While many of the themes identified above have a more long-term perspective, this area is very much focused on immediate needs.

The many changes which have taken place within VET in recent times have focused on the need to find ways of delivering VET to the right people, in the right way, at the right time. There are a number of approaches which have derived from this dominant need. The NSW VET system needs further advice and assistance in identifying what is good practice in these areas, what are cost-effective approaches and, importantly, what works and what does not. Aspects of this issue identified as particularly important are:

- the AVTS: school/work links, integrating on- and off-the-job, strengthening workplace delivery;
- flexible delivery: strengths of different methods, non-technological approaches, mentor and network systems;
- language, literacy and numeracy: how to deal with the size of the issue, achieving change without marginalising the workers, and what works best?
- issues relating to delivery of training by private providers.

3.3 Underneath the Training Reform Agenda

A concern expressed by representatives of government, industry, unions and professional researchers related to the extent to which the rhetoric of training reform is being reflected in practice. Several years ago it was reasonable to maintain that it was too early to expect many of the anticipated changes to have occurred; now there is a feeling that we need to check on the actual outcomes of public policies and the extent to which they are bedded down. Without this, there is likely to be disillusionment which will affect the capacity to deliver effective training in the longer term.

Examples of evaluations that could be carried out are:

- apprenticeships—how they are actually working, the extent to which the new arrangements are being used, the transition from apprenticeships to ATS to youth traineeship, the barriers to further change, and possible solutions;
- implementation of CBT—whether there is a sufficiently good understanding within industry, whether teacher training has kept pace with the reforms, and whether change is being managed in a way that will ensure commitment at all levels;
- level of awareness of training reform issues within enterprises;
- the impact of training reform on enterprises—whether it has changed the way in which enterprises develop and deliver training, its economic impact, and importantly why certain changes have not occurred.

Possible areas for R&D

1. ***Quality assurance, best practice and perceptions***

   Development of appropriate quality assurance systems, and how best to involve industry.

   Issues arising from the expansion of the recognition of providers—moderation, equivalence of outcomes, accreditation of workplaces.

   The implementation and level of acceptance of the AQF.

   Marketing the concept of training to small business—how to encourage employers to act?

   The effectiveness of course accreditation as a quality assurance mechanism.

   Community perceptions and awareness of VET, and its social impacts.

2. ***Financing, costs and benefits of VET***

   Options for funding the expanding base of, and demand for, VET provision.

   Means for providing small businesses with financially viable means of participating in the VET system.

   Methods for use by providers at the local level which can identify cost-effective approaches to providing VET.

   Useful measures of the outcomes of VET which reflect the growing diversity of providers, changing approaches to delivery and the involvement of industry.

3. ***Operation, management and leadership of VET systems***

   The extent to which present policies and procedures are resulting in real change on the ground: is the rhetoric matched by reality? Where it is not, what is stopping it? For example CBT, apprenticeships, level of awareness in industry, impact of training reform on enterprises. (It is as important to look at where change is <u>not</u> occurring as where it is.)

   Industry perceptions of training reform, and how it may be improved—for example, how to react to the comment that despite a large expenditure, there has been relatively little effect in some sectors (particularly small business).

   Institutional design of VET systems, for example cost-effectiveness of different models, alternatives to "top-down" and centralised decision-making and the operation of the training market.

   The roles of industry and training providers—in particular, the effectiveness of intersectoral links, how TAFE systems are changing to meet new demands, and the role of industry in setting priorities; impediments to the implementation of appropriate training strategies in industry.

   What options are most likely to achieve the government's goal of expanding and diversifying the market for training?

Possible areas for R&D (cont.)

4. ***Learning in the workplace and the classroom***

The differences in the breadth, depth and applicability of learning where similar programs are offered in the workplace as against the classroom. What implication does this have for accreditation?

The implications of current knowledge about learning in the workplace for the education of teachers and trainers, the organisation and delivery of accredited programs, and methods of assessing and credentialling competence.

Effective means of integrating on- and off-the-job delivery. Guidelines for good practice and case studies.

5. ***The changing environment of VET***

What change has occurred as a result of training reform? What are the implications for training of the changing workforce structures?

How anticipated industry trends for the next few years can be met from current and future resources.

How training providers are responding to the changing environment.

6. ***Delivering VET***

The capacity of industry and enterprises to participate in the formal VET system and the value of different infrastructure support systems in supporting workplace learning.

The impact of the school environment and culture on the outcomes of vocational programs and the import of this for school providers and for policy makers.

Alternative, including non-technological, delivery systems which enhance flexibility of provision and access to VET.

The effectiveness, and extent of implementation of, new approaches to delivery within the AVTS. Are the new clerical traineeships improving the skills of entry level workers? Has this changed employer attitudes to training? Is the program actually being implemented as intended? What lessons can be learnt which will improve future programs?

Providing language, literacy and numeracy training to workers is no longer a novel occurrence; however, the number of workers still requiring assistance is high. What are the impediments to greater penetration? How can such programs become better integrated with other approaches? Why are we so often, reinventing the wheel?

The role of private providers in VET—the size and nature of their contribution, their capacity to meet the expanding needs of the system, the current extent of credit transfer and/or movement of students between public and private providers.

3.4 The role of industry in VET policy and practice

There is much rhetoric about how training needs to be industry-driven, but it is unclear exactly how this can best be achieved. There has been little, if any, research on this topic although a recent paper has outlined the industrial relations dilemmas (Diplock 1995). Issues that need research include:

- ways in which industry can be helped to articulate its training needs;
- what levels of industry should determine policy and practice?—enterprise-level? ITAB-level? etc.;
- the relationship between training providers and clients—the flexibility of TAFE, how well it is changing, whether it as flexible as policies intend and what effect it has on other parts of the VET system; what the barriers are to improved flexibility and responsiveness, and how they might be removed;
- the distinction between industry training needs and individual needs, and rights to vocational education.

3.5 Better data to help in training reform

Whilst the VET data base has improved in recent years, key data is still unavailable and much data is unreliable or incorrect. Current data systems do not even provide the most basic of data. We do not know with any confidence, for example, how many people are participating in VET at any particular point in time. This makes effective monitoring of the system's performance extremely problematic.

It is important that consistent means of collecting and recording basic data are developed and implemented urgently. Moreover, an effective data base should allow us to identify trends over time as well as providing for snapshots of particular moments in time. In particular, data collections which allow for longitudinal studies should be included. These would allow us to answer such questions as: what paths in employment and/or training do people commonly take? do the benefits of training emerge quickly or over time? is this different for on-the-job and off-the-job training?

An associated issue is the level of provision of information to industry--whether industry is, as is popularly stated, "informed to death", or whether key information is still lacking; or both.

Some key issues which might be addressed are:

- what basic data is required by BVET and providers for effective monitoring of the VET system?
- how can data systems be developed which are flexible enough to meet changing needs, and the differing needs of various stakeholders, and which provide information which is timely and readily accessible?

- the feasibility of establishing a longitudinal study of, for example, a sample of those school students who turn 15 in 1996 and who are followed up at ages 18, 21, 30 and 45. Are other organisations interested in sharing costs, data, administration, etc?

4. Strengthening research in NSW

By far the most important need is to strengthen the quality and the amount of research carried out in NSW, and to improve the connections between research results and policy and practice. At present many stakeholders remain unconvinced as to the value of research in VET, many organisations having little experience of research. As long as this remains the case there will be little chance of research efforts being integrated into the various stages of training reform.

In order for changes in policy and practice to be informed by research, the main need is for new strategic initiatives rather than specific projects. These are outlined below.

4.1 Research that is useful: links with industry

A constant theme arising from discussions with stakeholders has been the need for greater collaboration, particularly at the local level, between industry, TAFE and university researchers. However, industry and individual enterprises have been significantly less active in R&D activities, other than through the activities of their Industry Training Advisory Bodies. The consultations carried out as part of the preparation of this report suggest many reasons for this:

- it generally appears that industry is both sceptical and uncertain as to whether R&D in VET will have any value for it;
- training and development personnel or human resource managers often have difficulty in articulating their problems in ways that are likely to lead to profitable research;
- there is little awareness that industry groups and/or enterprises can access public funding for VET-related research;
- the language and status of much current research is seen to be intimidating, unclear, unhelpful and remote from the interests of industry;
- there is a difference in focus: for many researchers, the conclusion of a research projects represents the endpoint; whereas for industry it often represents the beginning of a phase of application and implementation.

Any strategy to enhance the value of research must address these significant barriers to the development of a climate of useful research.

Possible strategies are:

(a) fostering of quality action research—for example, by giving a number of small grants to industry to enable collaboration on a specific problem between an enterprise or industry body and an experienced researcher. (The requirement that industry and educational providers work together proved a particularly effective device in the previous NSW Education and Training Foundation.)

(b) making suggested research topics available to universities, so that research students may consider them. Support could be given in the form of access

to suitable information, facilities and mentor support in areas such as teaching and learning, management, public administration, industrial relations and economics.

4.2 Research that is used: the importance of dissemination and utilisation

Comments made during the preparation of this report suggested that this area is second only in importance to the shortage of trained researchers, and needs to become a major focus of efforts to improve the use that is made of research. Many stakeholders commented on the fact that research that has been carried out is often not utilised and a frequent comment made by industry representatives was that although there appear to be lots of reports in existence on various topics, it is difficult for industry to access them.

As pointed out in *No Small Change*, the focus of dissemination initiatives and strategies is the need to change people, not to deliver information. This "people before products" approach means, for example, that the following three dissemination strategies are of decreasing effectiveness:

- getting people together to exchange and interpret information ('people centred');
- helping people in the field 'obtain information and make choices' ('people assisting');
- distribution of material ('information centred').

The implication here is not that 'information centred' and 'people-assisting' initiatives and strategies are to be avoided, but that by themselves they are unlikely to prove effective. The most effective strategies are active ones, which involve the stakeholders rather than merely feeding them information. These are also the most difficult to achieve.

Possible strategies to strengthen research are:

(a) establishing a NSW-based network of VET researchers, practitioners and policy makers. (The main challenge here would be to set it up in such a way that it had a definite focus and would attract relevant people from industry. An example of such a network is the former Recognition of Current Competency Network, which served a useful purpose.)

(b) monitoring and dissemination of recent developments in a particular area. (This could be carried out by engaging a consultant, in collaboration with an experienced writer, editor or media adviser, to prepare a series of summaries for different audiences which would appear in various publications, prepare and conduct seminars on the topic, and discuss with industry the most efficient way of proceeding to use the knowledge.)

(c) increasing the ability of industry to access available information from all bodies carrying out research, by providing summaries on BVET's *TRAIN* system, with suitable backup to provide further information.

(d) inclusion of dissemination and utilisation strategies in all research briefs, particularly focussing on how industry could access the results, and the allocation of notional funds for this purpose.

4.3 Building research expertise

The decline in research expertise and experience in recent years and the difficulties now being experienced in rebuilding that expertise have emphasised the importance of establishing a systemic approach to the maintenance of these skills.

Almost all those consulted have emphasised the critical shortage of existing research skills and the loss of knowledge and history which have occurred. Discussions with BVET, DTEC, TAFE NSW, other training providers and industry all pointed to the difficulty of finding people with the expertise to carry out research. The point was made that there are fewer trained researchers within the VET system now than ten years ago, due to the decline of research branches in TAFE NSW and other TAFE systems over the last decade, and the policy of contracting out research. Many experienced individuals initially moved into private consultancy work, but tighter economic circumstances in the public and private sectors are forcing many of these out of the business, with a consequent loss of expertise to the sector.

Whilst this has been balanced to some extent by an increase in research activity in particular universities (although with a different focus) and the development of research expertise by a number of consultants, there is still not the necessary suggested critical mass of researchers identified in *No Small Change* as being so desirable.

There is an immediate need for mechanisms to recruit and train people in R&D, in order that sufficient expertise be available to maintain and develop this required research capacity. It is also highly desirable to develop research expertise within industry. Although it is impractical to expect specific enterprises to undertake research into VET (as no enterprises except training providers have this as their core business), it is realistic to expect some interest from ITABs. In fact ITABs have pointed out that they now need the sort of research support mechanisms that universities and TAFE systems have built up in the past if they are to effectively research and evaluate pilot programs for which they are funded.

The following strategies would build research expertise:

(a) A Graduate Certificate in Vocational Education and Training Research should be developed in an appropriate university. The graduate certificate would be one year part-time, and linked with a workplace-based research project that each person was carrying out, which would also count towards the course. It would cover basic research methodology applied to VET, commissioning and management of research projects, and dissemination and utilisation of information.

(b) A number of scholarships should be funded to enable identified employees of relevant organisations to undertake research degrees on topics relevant to their employer. (The research degree would in many cases be

undertaken within the faculty of education of a relevant university, but could equally well occur in areas containing expertise in industrial relations, labour market matters, or economics.)

(c) TAFE NSW could be encouraged to include as desirable criteria for promotion to 'advanced skills teacher' the demonstrated capacity to apply research findings in teaching practice.

4.4 Accessing research

The frequency with which research duplicates research activities previously undertaken or currently under way was a consistent theme from respondents. It is clearly of considerable importance that scarce funds are not wasted on continually reinventing the wheel. But this is what is occurring.

The major source of information on published research in this area, the VOCED Database published by the National Centre for Vocational Education Research, is neither complete nor comprehensive. Moreover, even its existence is unknown to many researchers. Receipt of material into this database relies on voluntary contribution of material by researchers, rather than from an active attempt to record what is being done. To ensure that, within the bounds of feasibility, a complete collection is achieved requires a more active collection strategy. Although this is obviously a national issue, NSW needs to do what it can to minimise the problem.

Researchers and those using research are also often unaware of overseas reports and alternative ways of approaching problems. There is a strong perception that Australia has often copied systems—from State to State and from other countries—when the different contexts made it inappropriate to do so. Rather than merely mimic the policies of others, comparison with their models can be a useful mirror for our own practice, but at the moment this only happens informally. More formal links both within Australia and with relevant other countries is likely to be useful.

Such strategies would be supported by the establishment of a network of VET researchers, who would be kept abreast of the range of R&D activities currently under way. Technologies such as computer bulletin boards would facilitate regular contact.

A related matter raised by several respondents was the need to develop managers' skills in using and managing research, and a need for skill development in the commissioning and use of evaluation, which represents a high proportion of the research carried out.

The following strategies would improve access to research:

(a) ensuring that public funding of R&D projects is contingent on a demonstration that reasonable efforts have been made to avoid duplication of other work;

(b) examining particular key issues by comparing approaches between NSW and other States, and between Australia and overseas;

(c) ensuring that the NSW VocEd Database node is staffed and resourced in a manner which can support a more active role, including the gathering of

reports of all VET research, and that its availability and value is more widely known;

(d) development of a package of support material aimed at managers which would assist in the development of the skills of commissioning, managing and using research, and that these skills are identified as a fundamental competency for managers;

(e) developing and delivering a training program for people involved in commissioning evaluation projects or using the results;

(f) ensuring that committees judging research proposals contain at least one member with research experience and skills.

4.5 A centre devoted to R&D in vocational education and training?

The question of whether NSW should establish a centre to coordinate and encourage R&D in VET has been canvassed at some length both inside and outside BVET over the past year or two.

A centre would greatly assist the development of research by driving and overseeing the implementation of many of the suggestions in this report.

There appears to be no possibility of either industry or universities establishing such a centre alone. No industry (except the private training industry) has VET as its core business, although it is likely that industry would contribute to the activities of such a centre if it were established. Universities do not have the freedom to invest the sort of infrastructure funds needed without external support. It is possible some infrastructure funds may be made available by the Research Advisory Council of the Australian National Training Authority (ANTA).

The benefits of a Centre would include:

- provision of advice to all stakeholders on research priorities;
- developing a big picture view from the many research and evaluation reports produced;
- keeping in touch with industry needs in order that government-sponsored R&D will be best targeted;
- coordination of research activity in NSW, including dissemination of research findings;
- providing support to the research activities in ITABs, enterprises, and industry groups;
- ensuring an effective NSW presence in national debates on VET.

Two different structures are possible:

(a) A formal network of interested parties

Under this arrangement, BVET, the State ITAB network, TAFE NSW, peak employer bodies, some major enterprises, and relevant universities would join together to form a network. The "Centre" would consist of a small coordinating secretariat, which would oversee all functions.

(b) Support of an already established centre

In this case BVET would commission an existing centre (or create a new one) to carry out a specified range of activities (see above), and establish an advisory council to ensure that the activities of the centre served the needs of all stakeholders.

A combination of the two models is needed. Firstly, because the network will require support and infrastructure if it is to be effective, and secondly, because the centre would be able to carry out various recommendations on behalf of BVET in a way that the network could not. This would consist of:

(a) a formal network of stakeholders to continually advise BVET on R&D priorities and to assist in the dissemination of research findings; and

(b) a Centre with a specific role to act as BVET's agent in the implementation of many of the recommendations in this report and to coordinate the network.

5. A strategy for research funding 1995-96

In this report we have suggested a number of themes for research, and a number of initiatives to strengthen research in NSW. The following steps are suggested:

(a) Available research funds be divided between a selection of both large and small projects, with perhaps one large project for 1995 and two for 1996 being chosen from the items listed in section 3 above. The balance should be allocated to small projects carried out as collaborative efforts between industry and researchers. These could be chosen from the Table in section 3.

It is essential that there be a balance between research to aid practitioners and research to aid policy development.

(b) A timetable be drawn up for the progressive implementation of strategies suggested to strengthen research (see section 4), ensuring that the recommendations are carried out within the next two years.

(c) A centre be established as described in section 4.5, and that this be made responsible for many of the initiatives recommended in section 4.

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Appendices

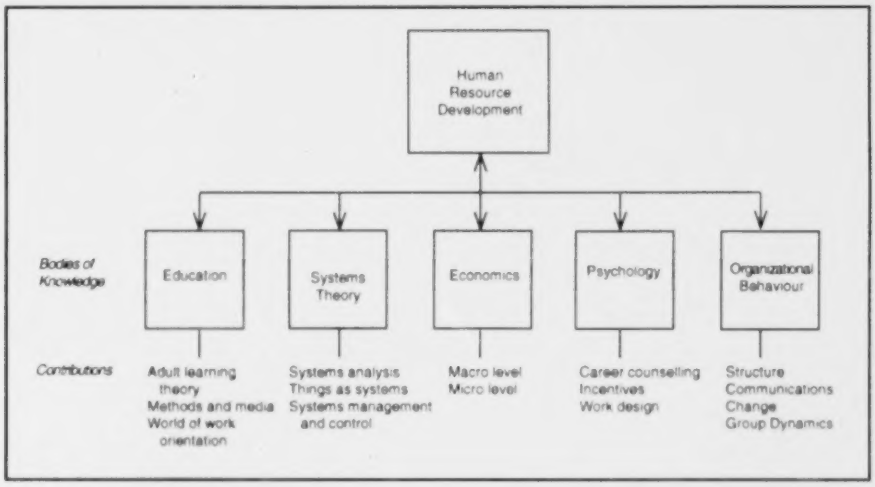
A1. Definitions

The definitions used in this report are taken from *No Small Change*.

"Vocational education and training"

There is some disagreement about the meaning of the term 'vocational education'; to avoid misunderstanding, we have adopted the use of the term as most commonly used and understood. Vocational education, for the purpose of this project, is defined as all formal post-school education which prepares students for (or further develops their skills in) a specific vocation or for work generally, up to and including the level of paraprofessional occupations.(This definition includes literacy and basic education programs, as they also prepare students for work generally.) 'Training' has been taken to include both on-the-job and off-the-job training to a similar level.

The figure below, originally designed for human resource development, covers many of the fields which contribute to vocational education and training.



A pictorial view of human resource development (From Jacobs, R. L. 1990)

"Research" and "Research and development"

We have adopted the broadest possible definition of 'research': we include under this heading all conceptual or empirical investigations which contribute to our knowledge about vocational education and training and factors directly relevant to it, no matter how this knowledge is obtained, and the non-routine applicàtion of this knowledge.

The key to this definition is the term 'non-routine'. For example, the routine use of the DACUM technique to obtain specific information about a particular occupation or course would not be classified as research under this definition, whereas an innovative application of DACUM which leads to new knowledge or insights into the research process would.

On the other hand, 'development projects' take new knowledge obtained from research and/or other existing ideas and develop this into products or procedures readily useable in the practice of vocational education and training. Often in vocational education and training it is hard to distinguish research from development.

A2. Methodology

(a) Initial briefing

The initial briefing was from the Director of BVET and the Assistant Director for Policy Planning and Evaluation .

(b) Document review

The literature reviewed included all the references listed in this report, plus a number of relevant BVET and ANTA policy documents.

(c) Initial discussions

Before the discussion paper was prepared, discussions were held with a number of people who it was felt had a broad overview of research in VET.

(d) Focus Groups

Two focus group discussions were held, involving representatives of key stakeholders.

(e) Discussion Paper

A discussion paper was prepared, covering the background to the project and some initial ideas about possible areas for research and for strategic support of research. This was sent to the following organisations for comment:

- BVET
- DIRETFE (incl. BACE, VETAB and AMES)
- all ITABs
- peak employer bodies
- unions
- TAFE NSW
- all universities
- DEET (NSW Office)
- ACPET
- professional societies (AITD, AHRI, TDCA)
- a selection of major enterprises involved in significant in-house training.

(f) Draft report

The draft report was discussed with BVET.

A3. Consultations

The following organisations provided input to the project—either during the initial consultations, focus groups, or in response to the Discussion Paper:

Adult Migrant English Service	Sue Hood Educational Research & Resources Coordinator
Arts Training Australia	Tina Jackson Chief Executive
Arts Training NSW	Ian Hetherington Executive Officer
Australian Catholic University	Assoc. Professor Jude Butcher Head of School of Education
	Thomas M H Thorpe Head, Department of Humanities Education
Australian Council for Private Education and Training (ACPET)	Peter Harris Chairperson and Director
Australian National Training Authority	Peter Noonan General Manager
BHP Co Ltd	Margrit Stocker Training and Development Consultant
Charles Sturt University	Professor Sandra Humphrey Deputy Vice-Chancellor
	Professor R.J. Meyenn Dean, Faculty of Education
Department of Employment Education and Training	Mary Guerbois Director Vocational Education & Training
Department of Social Security	Leanne Kruger
Dusseldorp Skills Forum	Richard Sweet Research Coordinator
Kaye Schofield and Associates	Kaye Schofield
Macquarie University	Assoc. Professor Dan O'Brien Head, School of Education
MTIA	Richard Jenkins National Advisor, Education and Training
National Community Services and Health Industry Training Advisory Board Ltd	Sally Davis Chief Executive Officer
National Metal and Engineering Training Board	Gillian MacDonald Acting NSW Coordinator

National Public Transport Training Board Inc.	Sally-Ann Thomas Executive Director
NLLIA Centre for Workplace Communication and Culture	Adrianna Hassapis Administrator
NRMA	Melanie O'Connor
NSW Board of Adult and Community Education	Sam Thomas Director
NSW Board of Vocational Education and Training	Carolyn Bloch Director
	Perce Butterworth Assistant Director for Policy Planning and Evaluation
	Rowena de Montfort Principal Policy Officer
	Dianne Holdforth Principal Policy Officer
NSW Chemical and Oil Industry Training Advisory Committee Ltd	Dennis Mather Executive Officer
NSW Community Services and Health Industry Training Advisory Body	Jill Gientzotis Executive Director
NSW Forest Industries Training Board Ltd.	Roy Edwards Chair
NSW Local Government Industry Training Committee	R.G. Vinten General Manager
NSW Minerals Council	Barbara Penson Director, Employee Relations
NSW Road Transport Industry Training Board Ltd.	Adrian Denyer Executive Officer
NSW TAFE Commission	Dr Gregor Ramsey Managing Director
	Dr Tony Anderson Acting Chief Education Officer Education Policy and Research Development Unit
	Chris Currey Manager, Education Policy and Research Development Unit
NSW Vocational Education and Training Accreditation Board	Dr Sandra Tweedie Managing Director
Office of Training and Further Education (Victoria)	Fran Thorn, General Manager, Strategic Planning and Research

Restaurant and Catering Association of NSW	Paul Russell Training Manager
Retail Traders Association of NSW	Bill Healey Deputy Executive Director
Tourism Training Australia	Bill Galvin Chief Executive Officer
University of New England	Dr Kay Harman Acting Head, Department of Administrative, Higher and Adult Education
University of Sydney	Assoc. Professor Phillip Jones Faculty of Education
	Dr John Freeland Department of Social Work
University of Technology, Sydney (UTS)	Assoc Prof Andrew Gonczi Head, School of Adult Education
	Delia Mazzina Research Manager, Research Centre for Vocational Education and Training
	John McIntyre Senior Lecturer
Women's Health Care Agency	Judith Montano Manager, Nursing Services

Note:

As explained in Appendix A2, the Discussion Paper was sent to the Chief Executive Officers of all State ITABs. The number of responses was less than it might have been for two reasons:

- several ITABs are at present undergoing restructuring, and at the time of this survey it was unclear which officers (if any) were authorised to comment on their behalf;
- some ITABs tend to develop responses at Board level, which made it impossible for a response to be provided within the time-frame within which this project was carried out.